



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/088,329	03/13/2002	Yoshihito Ohta	10873.881USWO	2865
23552	7590	03/29/2004	EXAMINER	
MERCHANT & GOULD PC P.O. BOX 2903 MINNEAPOLIS, MN 55402-0903				BELL, PAUL A
ART UNIT		PAPER NUMBER		
2675				

DATE MAILED: 03/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/088,329	OHTA ET AL.
	Examiner PAUL A BELL	Art Unit 2675

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 09 July 2001.

2a) This action is FINAL.                            2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-22 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-5, 14, 17 and 18 is/are rejected.

7) Claim(s) 6-13, 15, 16, 19 and 20-23 is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3.

4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.

5) Notice of Informal Patent Application (PTO-152)

6) Other: \_\_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. Figures 14, 15, 16a, 16b, 16c and 17 should be designated by a legend such as -  
-Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A  
proposed drawing correction or corrected drawings are required in reply to the Office  
action to avoid abandonment of the application. The objection to the drawings will not  
be held in abeyance.

### *Priority*

2. Acknowledgment is made of applicant's claim for foreign priority based on an  
application filed in Japan on 14 July 2000. It is noted, however, that applicant has not  
filed a certified copy of the 2000-214827 application as required by 35

### *U.S.C. 119(b). **Claim Objections***

3. Claims 1-22 are objected to because of the following informalities:

With regard to claims 1 and 17 the applicant use the abbreviation "OCB". It  
must be defined the first time it is used because it has different meanings in this field  
of art.

With regard to claim 1, 5, 6, 17, and 18 the applicant uses the abbreviation  
"Vsup" please define.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-5, 14, 17, 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Nakajima et al. (6,486,864).

With regard to claim 1 Nakajima et al. teaches a method for driving a liquid crystal display device having a liquid crystal panel (figure 1), the liquid crystal panel comprising a plurality of source lines to which pixel data are supplied (figure 1, item 2), a plurality of gate lines to which scanning signals are supplied (figure 1, item 1), pixel cells positioned in matrix form in correspondence with intersecting points of the source lines and the gate lines (figure 1, item 6), a source driver that drives the source lines based on an input image signal (figure 1, item 2 it is inherent that the source line has a source driver), a gate driver that drives the gate lines (figure 1, item 1 it is inherent that the gate line has a gate driver), and a back light (inherent that a lcd used for TV has a back light), the pixel cells being OCB cells (column 3, lines

60-62), wherein a first period for writing a signal for initializing a state of a liquid crystal in the pixel cells (figure 2, item "Assist signal writing scanning period") and a second period for writing pixel data in correspondence with the image signal in the pixel cells are provided selectively in one frame period (figure 2, item "Image signal writing scanning period"), and a voltage level to be applied to each pixel cell in the first period is set such that each pixel cell retains a voltage  $V_{sup}$  higher than that in the second period (figures 3 and 4).

With regard to claim 17 Nakajima et al. teaches a liquid crystal display device having a liquid crystal panel, the liquid crystal panel (figure 1 ) comprising: a plurality of source lines to which pixel data are supplied (figure 1, item 2), a plurality of gate lines to which scanning signals are supplied (figure 1, item 1), pixel cells positioned in matrix form in correspondence with intersecting points of the source lines and the gate lines (figure 1, item 6), a source driver that drives the source lines based on an input image signal (figure 1, item 2 it is inherent that the source line has a source driver), a gate driver that drives the gate lines (figure 1, item 1 it is inherent that the gate line has a gate driver), and a back light (inherent that a lcd used for TV has a back light), the

pixel cells being OCB cells(column 3, lines 60-62), wherein a first period for writing a signal for initializing the state of a liquid crystal in the pixel cells(figure 2, item "Assist signal writing scanning period") and a second period for writing pixel data in correspondence with the image signal in the pixel cells are set selectively in one frame period(figure 2, item "Image signal writing scanning period"), and means for setting a voltage level to be applied to each pixel cell in the first period such that each pixel cell retains a voltage  $V_{sup}$  higher than that in the second period is provided(figures 3 and 4).

With regard to claim 2 Nakajima et al. teaches the method for driving a liquid crystal display device according to claim 1, wherein a ratio occupied by the first period in one frame period is set to be less than 20% (figure 2 since there are two fields in a frame  $1/6 = 16.666 \% < 20 \%$ ).

With regard to claim 3 Nakajima et al. teaches the method for driving a liquid crystal display device according to claim 1, wherein when a voltage of a predetermined level or lower is applied to the pixel cell, it is judged that the first period needs to be set in a next frame, and the first period is set in the next frame (figure 2).

With regard to claim 4 Nakajima et al. teaches the method for driving a liquid crystal display device according to claim

1, wherein when a voltage of a predetermined level or lower is applied to the same pixel cell continuously in a predetermined number of preceding frames including a current frame, it is judged that the first period needs to be set in a next frame, and the first period is set in the next frame (figure 2).

With regard to claim 5 Nakajima et al. teaches the method for driving a liquid crystal display device according to claim 1, wherein the voltage  $V_{sup}$  is set variably for each frame (figure 2, item VS).

With regard to claim 14 Nakajima et al. teaches the method for driving a liquid crystal display device according to claim 1, wherein when the image signal as a digital signal is converted to an analog signal inside the source driver, a reference voltage used for conversion is switched in synchronization with a driving timing of the source line and the gate line (Inherent because DAC works this way).

With regard to claim 18 Nakajima et al. teaches the liquid crystal display device according to claim 17, wherein the setting means sets the voltage  $V_{sup}$  variably for each frame (figures 2 item vs and 4).

6. Claims 6-13, 15, 16, 19 and 20 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Bell whose telephone number is (703) 306-3019.

If attempts to reach the examiner by telephone are unsuccessful the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377 can help with any inquiry of a general nature or relating to the status of this application.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Or Faxed to: (703) 872-9306

Or Hand-delivered to: Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

*Paul Bell*  
Paul Bell  
Art unit 2675  
March 22, 2004

*Steven Saras*  
STEVEN SARAS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600